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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,263	09/19/2003	Samer P. Wasif	2002P20734US01	6061

7590 06/14/2005

Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER
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KIM, TAE JUN

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/667,263

Applicant(s)

WASIF ET AL.

Examiner

Ted Kim

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7, 9-13 and 15-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 5-7 is/are allowed.
- 6) ☒ Claim(s) 4, 9-13 and 15-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 4, 9, 10, 13, 15, 17, are rejected under 35 U.S.C. 102(b) as being anticipated by Heberling et al (5,540,056). Heberling et al teach a combustor comprising: a cylindrical basket 27 (combustor cans are taught on col. 4, lines 14+) having an axis; a burner assembly 20 disposed within the basket and separated from the basket by an annular space, the burner assembly configured to discharge a fuel/air mixture into a combustion chamber downstream of the burner assembly; and a burner insert 28 disposed in the annular space, the insert having a downstream face exposed to the combustion chamber and perpendicular to the axis of the basket; an insert support 81 for supporting the burner insert, the insert support disposed on a side of the burner insert opposed to the combustion chamber and protected from exposure to hot combustion products by the burner insert; a passage 74 formed through the insert support 81 for conveying a fluid to cool the burner insert 28; an impingement plate 81 defining a plenum for receiving the fluid and further comprising a plurality of holes 74 for directing the fluid to impinge on a face of the burner insert opposed the combustion chamber; the burner insert is removably attached to the insert support as there is no specific structure cited to accomplish the

removably attaching, note that even a welded structure or integral structure can be removed from the rest of the structure; the burner insert further comprising a substantially J-shaped cross section wherein a hooked portion of the J-shaped cross section forms a circumferential mounting lip around an inside diameter of the burner insert. In the can combustor configuration, the burner is a single main burner as it is illustrated on the centerline of the combustor (note that there are numerous references cited which show that this is true of the can combustor).

3. Claims 4, 9-11, 13, 15, 17, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Keller et al (6,351,947). Keller et al teach a gas turbine combustor comprising: a cylindrical basket 11 having an axis; a single main burner 19 assembly disposed within the basket; and a burner insert assembly disposed in an annular space between the burner assembly and the basket, the burner insert assembly further comprising a burner insert 29 having a face perpendicular to the axis of the basket and an insert support 27 or 25 for supporting the burner insert, the insert support protected from exposure to hot combustion products by the burner insert 29; wherein the burner insert is removably attached to the insert support; further comprising a passage 27a or 24 formed through the insert support for conveying a fluid flow from an upstream face of the insert support to a downstream face of the insert support; further comprising an impingement plate 27 attached to the downstream face of the burner support, the impingement plate 27 defining a plenum for receiving the fluid flow and further comprising a plurality of holes for directing the fluid flow to impinge on an upstream face of the burner insert 27a.

Keller et al teach a combustor comprising: a cylindrical basket 11 having an axis; a burner assembly 19 disposed within the basket and separated from the basket by an annular space, the burner assembly configured to discharge a fuel/air mixture into a combustion chamber downstream of the burner assembly; and a burner insert 29 disposed in the annular space, the insert having a downstream face exposed to the combustion chamber and perpendicular to the axis of the basket; a separate insert support 27 or 25 for supporting the burner insert, the insert support disposed on a side of the burner insert opposed to the combustion chamber and protected from exposure to hot combustion products by the burner insert; the burner insert is removably attached to the insert support; wherein the burner insert further comprises an outside diameter smaller than an inside diameter of the basket 11 so that an annular gap between 11 and 12 is formed at least along a portion of a circumference of the burner insert between the burner insert and the basket for allowing a fluid to flow into a downstream combustion chamber; the burner insert further comprising a substantially J-shaped cross section wherein a hooked portion of the J-shaped cross section forms a circumferential mounting lip around an inside diameter of the burner insert.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 9-11, 13, 15, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al (6,351,947) in view of either Bibler et al (6,871,501) or North et al (6,546,733). Keller et al teach various aspects of the claimed invention and appear to show a removable attached burner insert relative to an insert support. Making the burner insert removably attached to the insert support is old and well known in the art, as illustrated by the prior art, and would have been obvious to do, in order to facilitate repair or disassembly. The prior art do not teach the seal. North et al show a seal 222, 224 for aligning and sealing the burner insert assembly against the burner assembly. Bibler et al teach a seal 188 for aligning and sealing the burner insert assembly against the burner assembly. It would have been obvious to one of ordinary skill in the art to employ a seal to seal for aligning and sealing the burner insert assembly against the burner assembly, as taught by either Bibler et al or North et al, in order to reduce leakage of the cooling air.

6. Claims 4, 9-13, 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bibler et al (6,871,501) in view of Monty (5,623,827). Bibler et al teach a combustor comprising: a cylindrical basket having an axis; a burner assembly disposed within the basket and separated from the basket by an annular space, the burner assembly 42 configured to discharge a fuel/air mixture into a combustion chamber downstream of the burner assembly; and a burner insert 180 disposed in the annular space, the insert

having a downstream face exposed to the combustion chamber and perpendicular to the axis of the basket; a separate insert support 164 for supporting the burner insert, the insert support disposed on a side of the burner insert opposed to the combustion chamber and protected from exposure to hot combustion products by the burner insert, the burner insert being removable attached to the insert support for selective replacement; further comprising a passage 174 formed through the insert support for conveying a fluid to cool the burner insert 180; the insert support further comprises an impingement plate 80 defining a plenum for receiving the fluid and further comprising a plurality of holes 86 for directing the fluid to impinge on a face 200 of the burner insert 180 opposed the combustion chamber; wherein the burner insert 180 further comprises an outside diameter smaller than an inside diameter of the basket so that an annular gap is formed at least along a portion of a circumference of the burner insert between the burner insert and the basket *for allowing a fluid to flow into a downstream combustion chamber via holes* 194 (note that no specific location for the fluid to flow is claimed); the burner insert 180 further comprising a substantially J-shaped cross section wherein a hooked portion of the J-shaped cross section forms a circumferential mounting lip around an inside diameter of the burner insert; the burner support further comprising a recess between 81 and 162 circumferentially formed around an inside diameter of the burner support 180 for receiving the circumferential mounting lip of the burner insert; a seal 188 for aligning and sealing the burner insert assembly against the burner assembly. It is noted that Bibler teaches the combustor is an annular combustor and not a cylindrical/can combustor.

Monty teaches one of ordinary skill in the art how to go from an annular combustor to a cylindrical/can combustor (col. 3, lines 26+). It would have been obvious to one of ordinary skill in the art to make the combustor a cylindrical/can combustor, as taught by Monty, as an equivalent type of combustor used in the art. As for the plurality of passageways circumferentially positioned proximate to and downstream of the burner insert for allowing air to flow into the combustion chamber proximate the burner insert, this is not taught by Bibler but shown by Monty in the cooling nuggets. It would have been obvious to one of ordinary skill in the art to employ a plurality of passageways circumferentially positioned proximate to and downstream of the burner insert for allowing air to flow into the combustion chamber proximate the burner insert, in order to cool the liner and/or prolong its life.

7. Claims 4, 9-13, 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson (5,271,219) in view of Monty (5,623,827) and optionally DeCorso (4,112,676). Richardson teaches a combustor comprising: a cylindrical basket having an axis; a burner assembly 28 disposed within the basket and separated from the basket by an annular space, the burner assembly 28 configured to discharge a fuel/air mixture into a combustion chamber downstream of the burner assembly; and a burner insert 32 disposed in the annular space, the insert having a downstream face exposed to the combustion chamber and perpendicular to the axis of the basket; a separate insert support 19 or 30 for supporting the burner insert, the insert support disposed on a side of the burner insert opposed to the combustion chamber and protected from exposure to hot combustion



products by the burner insert, the burner insert being removable attached to the insert support for selective replacement; further comprising a passage 47 formed through the insert support 19 or 30 for conveying a fluid to cool the burner insert 32; the insert support 19 or 30 further comprises an impingement plate 19 defining a plenum for receiving the fluid and further comprising a plurality of holes 47 for directing the fluid to impinge on a face of the burner insert 32 opposed the combustion chamber; wherein the burner insert 32 further comprises an outside diameter smaller than an inside diameter of the basket so that an annular gap is formed at least along a portion of a circumference of the burner insert between the burner insert and the basket for allowing a fluid to flow into a downstream combustion chamber via holes 50. It is noted that Richardson teaches the combustor is an annular combustor and not a cylindrical/can combustor. Monty teaches one of ordinary skill in the art how to go from an annular combustor to a cylindrical/can combustor (col. 3, lines 26+). It would have been obvious to one of ordinary skill in the art to make the combustor a cylindrical/can combustor, as taught by Monty, as an equivalent type of combustor used in the art. As for the plurality of passageways circumferentially positioned proximate to and downstream of the burner insert for allowing air to flow into the combustion chamber proximate the burner insert, this is not taught by Richardson but shown by Monty in the cooling nuggets. It would have been obvious to one of ordinary skill in the art to employ a plurality of passageways circumferentially positioned proximate to and downstream of the burner insert for allowing air to flow into the combustion chamber proximate the burner insert, in order to

cool the liner and/or prolong its life. For claim 12, an alternate treatment can be used with DeCorso who teaches a plurality of passageways 44 circumferentially positioned proximate to and downstream of the burner insert for allowing air to flow into the combustion chamber proximate the burner insert. It would have been obvious to one of ordinary skill in the art to employ a plurality of passageways 44 as to allow adequate air to the primary combustion zone and/or to keep the combustor cool.

***Allowable Subject Matter***

8. Claims 1-3, 5-7 are allowed.

***Response to Arguments***

9. Applicant's arguments filed 05/03/2005 have been considered but are not persuasive with regard to Heberling. Note that the burner insert is considered removably attached to the insert support as there is no specific structure cited to accomplish the removable attaching, note that even a welded structure or integral structure can be removed from the rest of the structure.

Any previous indicated allowability of claims 16, 19 is withdrawn in view of the art cited above.

***Contact Information***


Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The

Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are  
703-872-9306 for Regular faxes and 703-872-9306 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>

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June 13, 2005	Fax (After Final)	703-872-9306
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Patents Assistance Center	Telephone	800-786-9199